

CLAIMS

1. A foamed film characterized by having at least one foamed layer which contains a resin composition comprising from 20 to 100 parts by mass of the following
5 (a) and from 0 to 80 parts by mass of the following (b) and which has a thickness of from 30 to 200 μm and a specific gravity of from 0.3 to 0.9:

(a) a block copolymer wherein the ratio of a vinyl aromatic hydrocarbon to a conjugated diene is from 50/50
10 to 90/10,

(b) at least one vinyl aromatic hydrocarbon polymer selected from the following (i) to (v):

(i) a block copolymer of a vinyl aromatic hydrocarbon with a conjugated diene,

15 (ii) a vinyl aromatic hydrocarbon polymer,

(iii) a copolymer of a vinyl aromatic hydrocarbon with (meth)acrylic acid,

(iv) a copolymer of a vinyl aromatic hydrocarbon with a (meth)acrylate, and

20 (v) a rubber-modified styrene polymer.

2. The foamed film according to Claim 1, wherein the uniaxial elongation viscosity η at 120°C of the resin composition satisfies the following condition:

$$2.5 > \eta_{1.5} / \eta_1 > 1.1$$

25 η_1 : elongation viscosity at Hencky strain 1

$\eta_{1.5}$: elongation viscosity at Hencky strain 1.5

3. The foamed film according to Claim 1, wherein the

above (a) is a block copolymer of the following (1) and (2):

(1) the mass ratio of the vinyl aromatic hydrocarbon to the conjugated diene is from 60/40 to 90/10,

5 (2) the mass ratio of a group of vinyl aromatic hydrocarbon polymer blocks having a weight average molecular weight of less than 5,000 to a group of vinyl aromatic hydrocarbon polymer blocks having a weight average molecular weight of at least 5,000, is from 60/40
10 to 90/10.

4. The foamed film according to any one of Claims 1 to 3, wherein (a) the block copolymer is a styrene/butadiene block copolymer, and (b) the vinyl aromatic hydrocarbon polymer is at least one polymer selected from the group
15 consisting of a polystyrene, a styrene/methacrylic acid copolymer, a styrene/methyl methacrylate copolymer, a styrene/n-butyl acrylate copolymer, a styrene/n-butyl acrylate/methyl methacrylate copolymer and an impact-resistant polystyrene.

20 5. A foamed multilayer film having at least one foamed layer as defined in any one of Claims 1 to 4 and at least one non-foamed thermoplastic resin layer.

6. The foamed multilayer film according to Claim 5, wherein at least one outer layer in the case of three or
25 more layers, or one layer in the case of two layers, is a layer formed from the following (b') vinyl aromatic hydrocarbon polymer:

(b') at least one vinyl aromatic hydrocarbon polymer selected from the following (i') to (v'):

(i') a block copolymer of a vinyl aromatic hydrocarbon with a conjugated diene,

5 (ii') a vinyl aromatic hydrocarbon polymer,

(iii') a copolymer of a vinyl aromatic hydrocarbon with (meth)acrylic acid,

(iv') a copolymer of a vinyl aromatic hydrocarbon with a (meth)acrylate, and

10 (v') a rubber-modified styrene polymer.

7. A heat shrinkable foamed film obtained by stretching the foamed film or the foamed multilayer film as defined in any one of Claims 1 to 6.

8. A heat shrinkable foamed multilayer film having a
15 heat shrinkable film laminated on the foamed film or the foamed multilayer film as defined in any one of Claims 1 to 7.

9. The heat shrinkable foamed multilayer film according to Claim 7 or 8, wherein the heat shrinkage is at least
20 10% at 70°C in 10 seconds.

10. The heat shrinkable foamed multilayer film according to any one of Claims 7 to 9, wherein the natural shrinkage is at most 2.5% at 40°C for seven days.

11. A heat shrinkable label made of the heat shrinkable
25 foamed multilayer film as defined in any one of Claims 7 to 10.

12. A container covered with the heat shrinkable label

as defined in Claim 11.